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TECH CENTER



1600

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/674,779B

DATE: 05/27/2003

TIME: 09:51:56

Input Set : A:\BM45311SEQLIST.TXT

Output Set: N:\CRF4\05272003\I674779B.raw

4 <110> APPLICANT: Jean-Louis Ruelle
 6 <120> TITLE OF INVENTION: BASB019 Proteins and Genes from
 7 Moraxella Catarrhalis Antigens, Antibodies, and Uses
 10 <130> FILE REFERENCE: BM45311
 12 <140> CURRENT APPLICATION NUMBER: US 09/674,779B
 13 <141> CURRENT FILING DATE: 2001-01-03
 15 <150> PRIOR APPLICATION NUMBER: PCT/EP/99/03038
 16 <151> PRIOR FILING DATE: 1999-05-03
 18 <150> PRIOR APPLICATION NUMBER: GB9809683.7
 19 <151> PRIOR FILING DATE: 1998-05-06
 21 <160> NUMBER OF SEQ ID NOS: 14
 23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 25 <210> SEQ ID NO: 1

ENTERED

26 <211> LENGTH: 519
 27 <212> TYPE: DNA
 28 <213> ORGANISM: Moraxella catarrhalis
 30 <400> SEQUENCE: 1
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 32 acaggctgtg ccaataaatc aacaagtcaa gttatggttg ctccctaatgc acccacaggt 120
 33 tacactgggg ttatctatac tgggtgttgca cctttggtag ataatgatga gaccgttaag 180
 34 gctctggcaa gcaagctacc cagtttggtt tattttgact ttgattctga tgagattaaa 240
 35 ccgcaagctg ctgccatctt agacgaacaa gcacaatttt taaccaccaa tcaaacagct 300
 36 cgtgttttgg ttgcaggcca taccgatgag cgtggttagtc gtgagtataa tatgtcactg 360
 37 ggggaacgcc gtgcggtggc ggtacgcaac tatttgcttg gtaaaggcat taatcaagcc 420
 38 agcgttgaga ttatcagttt tggatgaaga cgccctatcg catttggcac aaatgaagaa 480
 39 gcatggtcac aaaatcgctg tgctgaactg tcttattaa 519
 41 <210> SEQ ID NO: 2
 42 <211> LENGTH: 172
 43 <212> TYPE: PRT
 44 <213> ORGANISM: Moraxella catarrhalis
 46 <400> SEQUENCE: 2

47 Met Met Leu His Ile Gln Ile Ala Ala Ala Ala Ala Leu Ser Val
 48 1 5 10 15
 49 Leu Thr Phe Met Thr Gly Cys Ala Asn Lys Ser Thr Ser Gln Val Met
 50 20 25 30
 51 Val Ala Pro Asn Ala Pro Thr Gly Tyr Thr Gly Val Ile Tyr Thr Gly
 52 35 40 45
 53 Val Ala Pro Leu Val Asp Asn Asp Glu Thr Val Lys Ala Leu Ala Ser
 54 50 55 60
 55 Lys Leu Pro Ser Leu Val Tyr Phe Asp Phe Asp Ser Asp Glu Ile Lys
 56 65 70 75 80
 57 Pro Gln Ala Ala Ala Ile Leu Asp Glu Gln Ala Gln Phe Leu Thr Thr
 58 85 90 95

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59 Asn Gln Thr Ala Arg Val Leu Val Ala Gly His Thr Asp Glu Arg Gly
60      100      105      110
61 Ser Arg Glu Tyr Asn Met Ser Leu Gly Glu Arg Arg Ala Val Ala Val
62      115      120      125
63 Arg Asn Tyr Leu Leu Gly Lys Gly Ile Asn Gln Ala Ser Val Glu Ile
64      130      135      140
65 Ile Ser Phe Gly Glu Glu Arg Pro Ile Ala Phe Gly Thr Asn Glu Glu
66 145      150      155      160
67 Ala Trp Ser Gln Asn Arg Arg Ala Glu Leu Ser Tyr
68      165      170
70 <210> SEQ ID NO: 3
71 <211> LENGTH: 519
72 <212> TYPE: DNA
73 <213> ORGANISM: Moraxella catarrhalis
75 <400> SEQUENCE: 3
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77 acaggctgtg ccaataaatc aacaagtcaa gttatgggtg ctccctaatgc acccacaggt      120
78 tacactgggg ttatctatac tgggtgtgca cctttggtag ataatgatga gaccgttaag      180
79 gctctagcaa gcacgctacc cagtttggtt tattttgact ttgattctga tgagattaaa      240
80 ccgcaagctg ctgccatctt agacgaacaa gcacaatttt taaccaccaa tcaaacagct      300
81 cgtgttttgg ttgcagggtc taccgatgag cgtggtagtc gtgagtataa tatgtcactg      360
82 ggggaacgtc gtgcgggtggc ggtacgcaac tatttgcttg gtaaaggcat taatcaagcc      420
83 agcgttgaga ttatcagttt tggatgaaga cgccctatcg catttggcac aatgaagaa      480
84 gcatgggtcac aaaatcgctg tgctgaactg tcttattaa      519
86 <210> SEQ ID NO: 4
87 <211> LENGTH: 172
88 <212> TYPE: PRT
89 <213> ORGANISM: Moraxella catarrhalis
91 <400> SEQUENCE: 4
92 Met Met Leu His Ile Gln Ile Ala Ala Ala Ala Ala Leu Ser Val
93 1      5      10      15
94 Leu Thr Phe Met Thr Gly Cys Ala Asn Lys Ser Thr Ser Gln Val Met
95      20      25      30
96 Val Ala Pro Asn Ala Pro Thr Gly Tyr Thr Gly Val Ile Tyr Thr Gly
97      35      40      45
98 Val Ala Pro Leu Val Asp Asn Asp Glu Thr Val Lys Ala Leu Ala Ser
99      50      55      60
100 Thr Leu Pro Ser Leu Val Tyr Phe Asp Phe Asp Ser Asp Glu Ile Lys
101 65      70      75      80
102 Pro Gln Ala Ala Ala Ile Leu Asp Glu Gln Ala Gln Phe Leu Thr Thr
103      85      90      95
104 Asn Gln Thr Ala Arg Val Leu Val Ala Gly His Thr Asp Glu Arg Gly
105      100      105      110
106 Ser Arg Glu Tyr Asn Met Ser Leu Gly Glu Arg Arg Ala Val Ala Val
107      115      120      125
108 Arg Asn Tyr Leu Leu Gly Lys Gly Ile Asn Gln Ala Ser Val Glu Ile
109      130      135      140
110 Ile Ser Phe Gly Glu Glu Arg Pro Ile Ala Phe Gly Thr Asn Glu Glu
111 145      150      155      160

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112 Ala Trp Ser Gln Asn Arg Arg Ala Glu Leu Ser Tyr
113                               165                170
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116 <211> LENGTH: 519
117 <212> TYPE: DNA
118 <213> ORGANISM: Moraxella catarrhalis
120 <400> SEQUENCE: 5
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122 acaggctgtg ccaataaatc aacaagtcaa gttatggttg ctccaatgc acccacaggt      60
123 tacactgggg ttatctatac tgggtgttgc cctttggtag ataatgatga gactatcaag      120
124 actttggcaa gcacgctacc cagtttggtt tattttgact ttgattctga tgagattaaa      180
125 ccgcaagctg ctgccatctt agacgaacaa gcacaatttt taaccaccaa tcaaacagct      240
126 cgtgttttgg ttgcagggtca taccgatgag cgtggtagtc gtgagtataa tatgtcactg      300
127 ggggaacgcc gtgcggtggc ggtacgcaac tatttgcttg gtaaaggcat taatcaagcc      360
128 agcgttgaga ttatcagttt tggatgaagaa cgccctatcg catttggcac aaatgaagaa      420
129 gcatggtcac aaaatcgctg tgctgaactg ttttattaa      480
131 <210> SEQ ID NO: 6
132 <211> LENGTH: 172
133 <212> TYPE: PRT
134 <213> ORGANISM: Moraxella catarrhalis
136 <400> SEQUENCE: 6
137 Met Met Leu His Ile Gln Ile Ala Ala Ala Ala Ala Leu Ser Val
138 1                               5                10                15
139 Leu Thr Phe Met Thr Gly Cys Ala Asn Lys Ser Thr Ser Gln Val Met
140                               20                25                30
141 Val Ala Pro Asn Ala Pro Thr Gly Tyr Thr Gly Val Ile Tyr Thr Gly
142                               35                40                45
143 Val Ala Pro Leu Val Asp Asn Asp Glu Thr Ile Lys Thr Leu Ala Ser
144                               50                55                60
145 Thr Leu Pro Ser Leu Val Tyr Phe Asp Phe Asp Ser Asp Glu Ile Lys
146 65                               70                75                80
147 Pro Gln Ala Ala Ala Ile Leu Asp Glu Gln Ala Gln Phe Leu Thr Thr
148                               85                90                95
149 Asn Gln Thr Ala Arg Val Leu Val Ala Gly His Thr Asp Glu Arg Gly
150                               100               105               110
151 Ser Arg Glu Tyr Asn Met Ser Leu Gly Glu Arg Arg Ala Val Ala Val
152                               115               120               125
153 Arg Asn Tyr Leu Leu Gly Lys Gly Ile Asn Gln Ala Ser Val Glu Ile
154                               130               135               140
155 Ile Ser Phe Gly Glu Glu Arg Pro Ile Ala Phe Gly Thr Asn Glu Glu
156 145                               150               155               160
157 Ala Trp Ser Gln Asn Arg Arg Ala Glu Leu Ser Tyr
158                               165                170
160 <210> SEQ ID NO: 7
161 <211> LENGTH: 519
162 <212> TYPE: DNA
163 <213> ORGANISM: Moraxella catarrhalis
165 <400> SEQUENCE: 7
166 atgatgttac atattcaaat tgccgctgct gccgcccgtt tatcggtact aacttttatg      60

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167 acaggctgtg ccaataaatc aacaagtcaa gttatgggtg ctcctaattgc acccacgggt      120
168 tacgctggcg ttatctacac tgggtgtgca cctttggtag ataatgatga gaccgtcaag      180
169 gctttggcaa gcacgtacc cagtttggtt tattttgact ttgattctga tgagattaaa      240
170 ccgcaagctg ctgccatctt agacgaacaa gcacaatttt taaccaccaa tcaaacagct      300
171 cgtgttttgg ttgcaggcca taccgatgag cgtggtagtc gtgagtataa tatgtcactg      360
172 ggggaacgcc gtgcggtggc ggtacgcaac tatttgctta gtaaaggcat caatcaagcc      420
173 agcgttgaga ttatcagttt tggatgaaga cgccctatcg catttggcac aaatgaagaa      480
174 gcatggtcac aaaatcgtcg tgctgaactg tcttattaa      519
176 <210> SEQ ID NO: 8
177 <211> LENGTH: 172
178 <212> TYPE: PRT
179 <213> ORGANISM: Moraxella catarrhalis
181 <400> SEQUENCE: 8
182 Met Met Leu His Ile Gln Ile Ala Ala Ala Ala Ala Ala Leu Ser Val
183 1 5 10 15
184 Leu Thr Phe Met Thr Gly Cys Ala Asn Lys Ser Thr Ser Gln Val Met
185 20 25 30
186 Val Ala Pro Asn Ala Pro Thr Gly Tyr Ala Gly Val Ile Tyr Thr Gly
187 35 40 45
188 Val Ala Pro Leu Val Asp Asn Asp Glu Thr Val Lys Ala Leu Ala Ser
189 50 55 60
190 Thr Leu Pro Ser Leu Val Tyr Phe Asp Phe Asp Ser Asp Glu Ile Lys
191 65 70 75 80
192 Pro Gln Ala Ala Ala Ile Leu Asp Glu Gln Ala Gln Phe Leu Thr Thr
193 85 90 95
194 Asn Gln Thr Ala Arg Val Leu Val Ala Gly His Thr Asp Glu Arg Gly
195 100 105 110
196 Ser Arg Glu Tyr Asn Met Ser Leu Gly Glu Arg Arg Ala Val Ala Val
197 115 120 125
198 Arg Asn Tyr Leu Leu Ser Lys Gly Ile Asn Gln Ala Ser Val Glu Ile
199 130 135 140
200 Ile Ser Phe Gly Glu Glu Arg Pro Ile Ala Phe Gly Thr Asn Glu Glu
201 145 150 155 160
202 Ala Trp Ser Gln Asn Arg Arg Ala Glu Leu Ser Tyr
203 165 170
205 <210> SEQ ID NO: 9
206 <211> LENGTH: 21
207 <212> TYPE: DNA
208 <213> ORGANISM: Artificial Sequence
210 <220> FEATURE:
211 <223> OTHER INFORMATION: Primer sequence
213 <400> SEQUENCE: 9
214 cccttattaa ttgacaatca c
216 <210> SEQ ID NO: 10
217 <211> LENGTH: 19
218 <212> TYPE: DNA
219 <213> ORGANISM: Artificial Sequence
221 <220> FEATURE:
222 <223> OTHER INFORMATION: Primer sequence

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224 <400> SEQUENCE: 10
225 ggcagagtga atcttaagc
227 <210> SEQ ID NO: 11
228 <211> LENGTH: 59
229 <212> TYPE: DNA
230 <213> ORGANISM: Artificial Sequence
232 <220> FEATURE:
233 <223> OTHER INFORMATION: Oligonucleotide
235 <400> SEQUENCE: 11
236 aagggcccaa ttacgcagag gggatccaat aaatcaacaa gtcaagttat ggttgctcc
238 <210> SEQ ID NO: 12
239 <211> LENGTH: 65
240 <212> TYPE: DNA
241 <213> ORGANISM: Artificial Sequence
243 <220> FEATURE:
244 <223> OTHER INFORMATION: Oligonucleotide
246 <400> SEQUENCE: 12
247 aagggcccaa ttacgcagag ggtcgactta ttaataagac agttcagcac gacgattttg
248 tgacc
250 <210> SEQ ID NO: 13
251 <211> LENGTH: 16
252 <212> TYPE: PRT
253 <213> ORGANISM: Artificial Sequence
255 <220> FEATURE:
256 <223> OTHER INFORMATION: peptide
258 <400> SEQUENCE: 13
259 Cys Asn Glu Glu Ala Trp Ser Gln Asn Arg Arg Ala Glu Leu Ser Tyr
260 1 5 10 15
262 <210> SEQ ID NO: 14
263 <211> LENGTH: 14
264 <212> TYPE: PRT
265 <213> ORGANISM: Artificial Sequence
267 <220> FEATURE:
268 <223> OTHER INFORMATION: peptide
270 <400> SEQUENCE: 14
271 Tyr Thr Gly Val Ala Pro Leu Val Asp Asn Asp Glu Thr Val
272 1 5 10

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/674,779B

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Input Set : A:\BM45311SEQLIST.TXT

Output Set: N:\CRF4\05272003\I674779B.raw